

composition of the present invention. In this manner, special effects can be obtained, e.g., a different shade at the tip of the restoration than at the gingival area. The porcelain layers can be applied to the framework in the usual manner, as by applying a paste of the porcelain powder in water over the framework, shaping to the desired configuration, and then firing.

5           The present invention can also be used by itself as an inlay/onlay material to replace amalgam, gold or other ceramics. The porcelain of the present invention can be prepared as an inlay/onlay or veneer by building the porcelain powder in the form of an aqueous slurry on an appropriate refractory investment die (such as SYNVEST™ sold by Jeneric/Pentron Incorporated of Wallingford, CT) and then firing the porcelain/die combination to 815°-850° C to effect proper maturation of the porcelain. If desired, those skilled in the art can also use foil techniques which utilize a thin (0.001") piece of platinum or other suitable foil adapted to a gypsum die to hold the porcelain in its proper geometry, remove the foil/porcelain from the gypsum die and fire as before to effect proper fusion of the porcelain. The resultant sample would be placed in the prepared cavity and would result in a smooth surface in contact with the natural dentition.

Further variations and modifications of the present invention will become apparent to those skilled in the art from the foregoing and are intended to be encompassed by the claims appended hereto.

What is claimed is:

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1. A method of fabricating a dental restoration comprising:  
 providing a framework possessing a coefficient of thermal expansion of as high as  
 about  $18 \times 10^{-6}/^{\circ}\text{C}$ ; and  
 fusing a dental porcelain composition comprising a leucite crystallite phase dispersed  
 in a feldspathic glass matrix to said framework to provide a smooth, non-abrasive surface  
 thereon;  
 said fused dental porcelain composition having a maturing temperature in the range  
 from about  $750^{\circ}$  to about  $1050^{\circ}\text{C}$ ., a coefficient of thermal expansion (room temperature to  
 $450^{\circ}\text{C}$ .) of from about  $12 \times 10^{-6}/^{\circ}\text{C}$ . to about  $17.5 \times 10^{-6}/^{\circ}\text{C}$ ., and comprising:

Component	Amount (wt. %)
$\text{SiO}_2$	57-66
$\text{Al}_2\text{O}_3$	7-15
$\text{K}_2\text{O}$	7-15
$\text{Na}_2\text{O}$	7-12
$\text{Li}_2\text{O}$	0.5-3

and further comprising a dispersed leucite crystallite phase representing from about 5 to  
 about 65 weight percent of the dental porcelain, and wherein the leucite crystallites possess  
 diameters not exceeding about 10 microns.

2. The method of Claim 1 wherein the leucite crystallites of the fused porcelain  
 have diameters not exceeding about 5 microns.

3. The method of Claim 2 wherein the leucite crystallite are less than have diameters not exceeding about 1 micron.
4. The method of Claim 1, wherein the dental porcelain has a maturing temperature of from about 800° to about 1000°C.
5. The method of Claim 1, wherein the dental porcelain is fired at a temperature ranging from about 780° to about 870°C.
6. The method of claim 1, wherein the fused porcelain is a two-phase porcelain.
7. The method of Claim 1 wherein the fused dental porcelain composition further comprises at least one of:

Component	Amount (wt. %)
CaO	0-3
MgO	0-7
F	0-4
CeO <sub>2</sub>	0-1.